Thesis Project Portfolio

Amazon Grocery: Automating the Retrieval Process

(Technical Report)

The Emergence of Remote Work and Its Effects on the Corporate Climate

(STS Research Paper)

An Undergraduate Thesis

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Sociotechnical Synthesis

The computer science industry has undergone massive change in the last decade. As technology continues to develop and become more advanced, companies have created new ways to leverage that technology. One such use of developing technology is discovering new ways to automate processes, both digitally and physically. As an intern at Amazon Robotics, my team was focused on improving the automation process in Amazon's grocery service, Amazon Fresh, and my job on the team was to develop an internal tool to help my team streamline debugging and error logging. One particular phenomenon that has affected the workplace, especially at technology companies at Amazon, is the emergence of remote work, spurred on by the COVID-19 pandemic. Remote work has become increasingly common, with a large portion of the technology industry adopting it.

The technical paper discusses my experience as an intern at Amazon Robotics, as well as detail my summer project for the team. I was tasked with developing an internal tool that would let team members query AWS CloudWatch logs across various development accounts in order to help the team streamline debugging and avoid system failures. I designed and implemented the project by myself, with help from engineers on the team, and gained experience working in a professional team environment. On the technical side, I learned about a plethora of AWS technologies and services, such as Lambda, API Gateway, CloudWatch, and EC2. On top of learning these services, the team taught me how to implement better coding practices in my development process.

The STS research paper dives into the emergence of remote work, including before and after the COVID-19 pandemic. The emergence of remote work is analyzed through the Social Construction of Technology framework (SCOT), including factors that influenced the

development of remote work technology as well as factors that influenced its popularity. The STS research paper analyzes the effects of remote work, on both the employer and employee side, including examining effects on employee mood and productivity, as well as employer finances. The future and longevity of remote work is considered, and the effects of the COVID-19 pandemic on remote work is closely examined.

The technical paper and research paper are loosely linked. In the technical paper, I discuss my experiences with remote work, as my whole team worked on a hybrid schedule, only coming to the office on specific days and working remotely the others. The future of automation within Amazon Fresh, as well as the emergence of remote work are not yet known, and it will be interesting to see developments within both.